Claims:

1. A system for characterization and calibration of gas sensors, said system comprising:

a muffle furnace attached to a gas selection mechanism, wherein said muffle furnace is being provided with the gas sensor which is to be characterized and a temperature sensor;

the gas selection mechanism supplies a predetermined amount of an air containing a predetermined quantity of the gas to be detected to the muffle furnace;

the gas sensor and the temperature sensors being coupled to a micro converter through a buffer and offset amplifier mechanism and a signal conditioning mechanism respectively;

an output from the micro converter is coupled to a display unit for displaying the values measured by the gas and the temperature sensors.

2. A system as claimed in claim 1, wherein the muffle furnace heats the air coming from the gas selection mechanism to a predetermined value to enable the gas sensor to detect and measure the amount of particular gas.

3. A system as claimed in claim 1, wherein the gas sensor used is oxygen sensor.

4. A system as claimed in claim 1, wherein the gas sensor used is a modified lambda sensor for measuring oxygen.

5. A system as claimed in claim 1, wherein the gas sensor is a Bosch zirconium oxide based modified lambda sensors used in oil fired boiler stack gas oxygen measurement.

6. A system as claimed in claim 1, wherein the gas selection mechanism supplies air containing predetermined quantity of oxygen to the muffle furnace.

7. A system as claimed in claim 1, wherein the gas selection mechanism consists of a plurality of calibrated gas cylinders containing air having predetermined quantity of oxygen, each of the said cylinder being provided with a control mechanism for controlling the amount air supplied and said calibrated gas cylinders being coupled to a channel selector for controlling the nature of air being supplied to the muffle furnace.

8. A system as claimed in claim 6, wherein the gas selection mechanism consists of 6 cylinders containing air having 0%, 2%, 4%, 6%, 8% and 10% oxygen.

9. A system as claimed in claim 6, wherein the gas cylinders are provided with solenoid valves for controlling the amount of air supplied to the muffle furnace.

10. A system as claimed in claim 8, wherein the gas cylinders are further provided with actuators for controlling the solenoids.

11. A system as claimed in claim 6, wherein the calibrated gas cylinders are coupled to the channel selector optionally through rotameters, which indicates the pressure.

12. A system as claimed in claim 1, wherein the micro converter converts the output of the gas sensor and the temperature sensor to digital values.

13. A system as claimed in claim 1, wherein the micro converter used is AduC812 micro converter.

14. A system as claimed in claim 1, wherein the display unit used is a 7-segment LED display unit.

15. A system as claimed in claim 1, wherein a database access system for logging the readings of the gas sensor and the temperature sensor is optionally provided.